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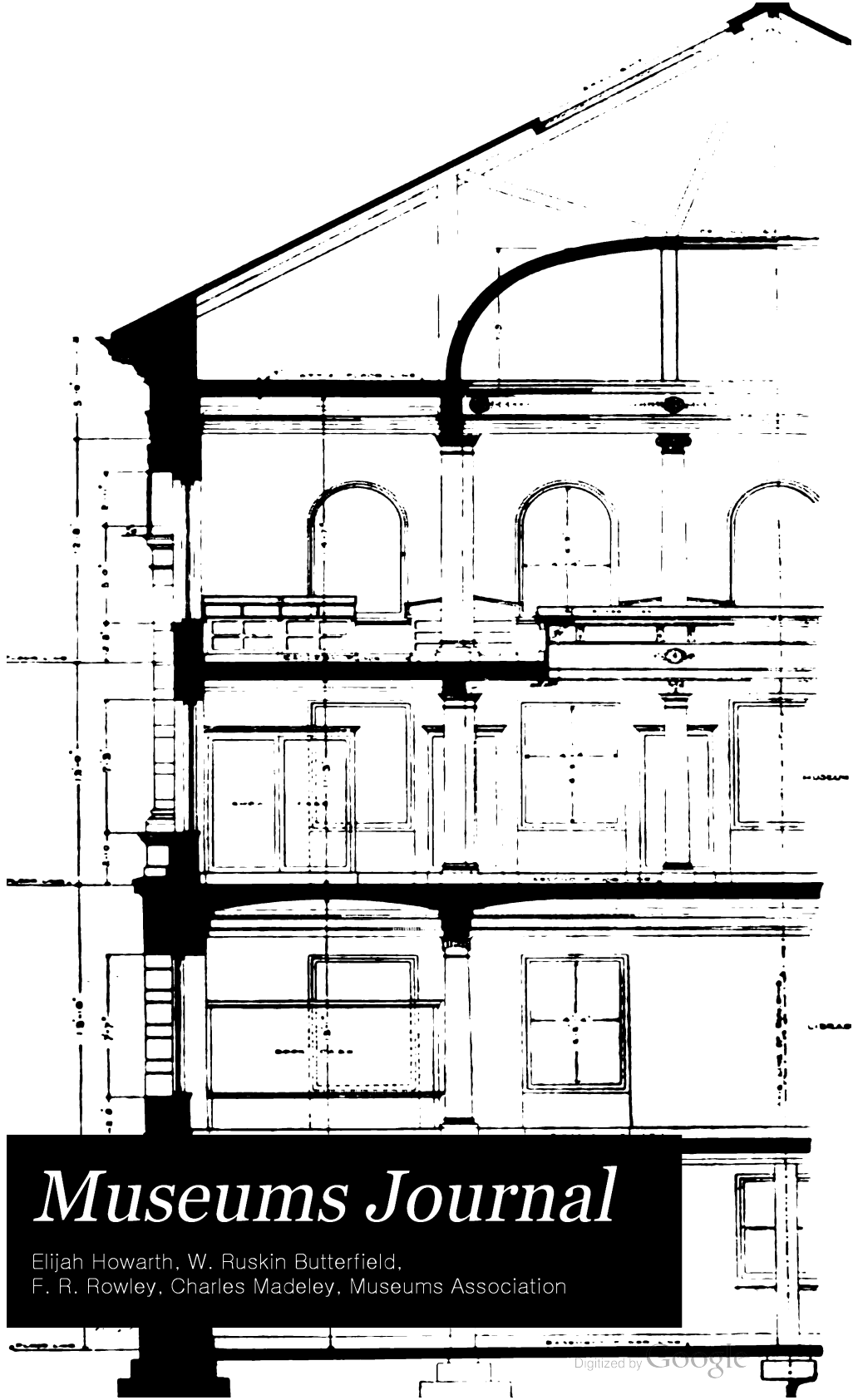

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THE

MUSEUMS JOURNAL

THE ORGAN OF THE MUSEUMS ASSOCIATION.

EDITED BY

E. HOWARTH, F.R.A.S., F.Z.S.,

Museum & Art Gallery, Sheffield.

*

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VOL. I.

JULY, 1901, to JUNE, 1902.

LONDON:
DULAU AND CO.
1902.

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SEP 23 1901

Vol. 1.] *Floreat Musea.* [*No. 1*

15,284

THE

MUSEUMS JOURNAL:

THE ORGAN OF THE MUSEUMS ASSOCIATION.

EDITED BY

E. HOWARTH, F.R.A.S., F.Z.S.,

Museum & Art Gallery, Sheffield.

*

ASSISTED BY

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*

JULY, 1901.

. . . PRICE 1/- NET. . . .

LONDON:
DULAU AND CO.

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MUSEUMS ASSOCIATION.

President :

Sir WILLIAM TURNER, K.C.B., B.SC., F.R.S., D.C.L., L.L.D.

Treasurer :

Alderman W. H. BRITTAIN, J.P., F.R.G.S. (Sheffield).

Hon. General Secretary :

E. HOWARTH, Museum, Sheffield.

The object of the Association shall be the promotion of better and more systematic working of Museums throughout the Kingdom. In order to promote a better knowledge of Museums, the Association shall meet in a different town each succeeding year.

That each Museum contributing not less than one guinea a year be a Member of the Association, and that individuals interested in scientific work be admitted as Associates on payment of 10s. 6d. annually.

That each Museum be represented by three delegates, each having one vote. Each Associate to have one vote.

That each Museum belonging to the Association and each Associate receive one copy of the publications of the Association.

That a General Meeting of the Association be held annually, for the transaction of business, the reading of papers, and the discussion of matters relating to Museums.

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FEB ·· 1902

Museums Association.

The Edinburgh Conference, 1901.

With all the attractions which Edinburgh can boast, a visit to that fair capital must at any time afford considerable enjoyment, and no doubt all the delegates to the Conference of the Museums Association anticipated a pleasant and satisfactory meeting. In this they were not disappointed. For beyond the natural beauties of of Edinburgh, which have exerted such harmonious influence on the architecture of the city, both public and private, testifying to the good taste and cultured sense of the citizens whether in corporate or individul character, there are so many institutions devoted to art, science and literature, that the museum enthusiast has no lack of material for his inspection and study. One delegate claimed to have visited all the museums of Edinburgh, and on the completion of his self-imposed duty remarked that he had done a hard week's work. Properly he ought to have felt refreshed by such a week of exceptional enjoyment.

All who were present agreed that the Edinburgh meeting, in the complete and happy combination of graceful hospitality, cordial good-fellowship, and the high level of the papers and discussions, afforded entire satisfaction, while, in a very marked degree, it still further promoted the reputation and progress of the Association.

It was a source of regret to all present that the retiring president, Dr. Henry Woodward F.R.S., who, with genial manner, consummate tact and happy directness of purpose, had so ably presided over the conference at Canterbury last year, was unable to be present owing to ill-health. This must have been a great deprivation to Dr. Woodward, who would have found himself so thoroughly at home in spirit and feeling with the gifted citizens of Edinburgh who took part in our proceedings.

At the opening meeting the secretary read the following letter, explaining the unwilling and regrettable cause of Dr. Woodward's absence, and there was a very hearty expression of feeling that he would soon be restored to good health :—"Lyme Regis, 6th July, 1901. Gentlemen,—I have to ask your kind forbearance when I express my regret that I am unable to attend the meeting of the Museums Association this year in Edinburgh, to resign the chair in

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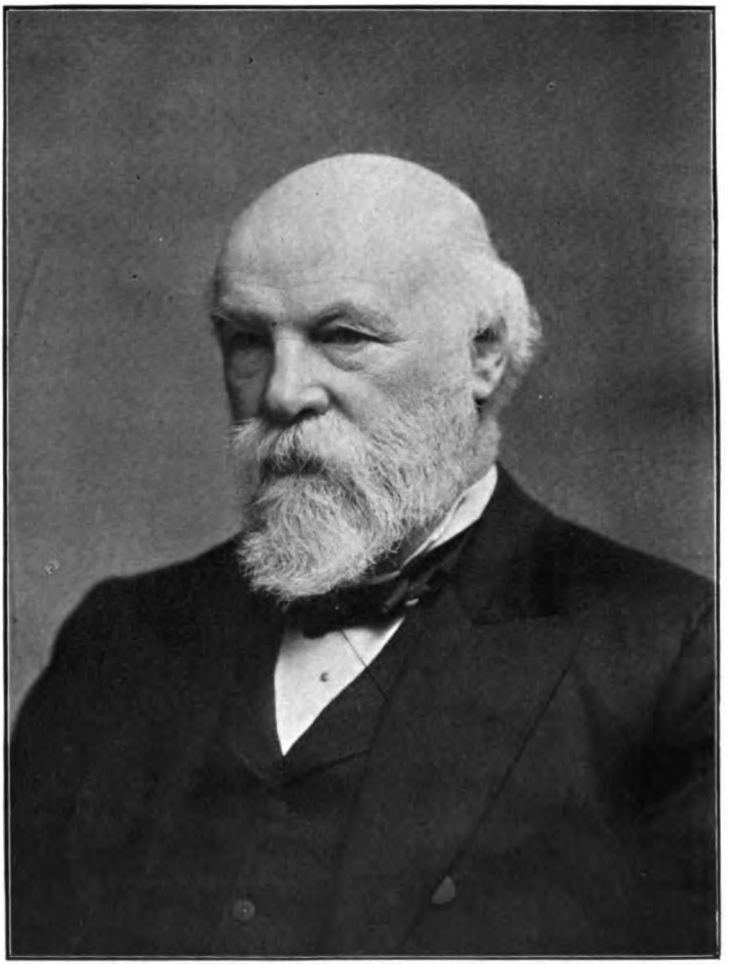

From a Photo. *By Elliott & Fry.*

SIR WILLIAM TURNER, K.C.B., LL.D., F.R.S.,

President, Museums Association, 1901.

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SEP 23 1901

The Museums Association and its Journal.

WHEN a new periodical is launched amongst the miscellaneous craft which already disturb, and sometimes disfigure, the overcrowded sea of journalism, it is customary to offer some excuse for its appearance. Fortunately in the present instance no excuses are required, for everyone connected with museums, or in any way interested in them, will be sure to welcome a journal devoted to museum matters and written by experts intimately associated with museums and their work. The dogmatism and obscurity occasionally associated with expert authorship will, however, be avoided by the co-operation of a wide circle of experts, as diverse in their opinions as in the subjects of their study. The objects of the editors will be, not to enforce any individual views, but to garner a rich harvest of fact and theory, in which each reader may find some grains of value to his own work.

If the Journal merely enables its readers to realise more vividly what a museum is, or better still, what it may be made, then it will be a positive and practical influence for good. John Ruskin, who was equal to giving the precise expressive term to most things in art and nature, felt constrained to define a museum in negations. That he attempted to define it at all showed his sense of its importance, which he also displayed in a more practical manner by his attempts at forming museums as well as defining them. In no case was his attempt entirely complete or successful. Indeed it is a happy quality of museums that they never are complete, for, in the words of Brown Goode, "a finished museum is a dead museum."

Museums have many forms, just because art and nature produce many forms, and the human intellect gives varied forms to its many ideas. Consequently, museums are various, embracing art, nature, and humanity to such an extent as to require classification. Thus, to mention some of the more obvious types, we may speak of:—

The Museum National, the most comprehensive of all.

The Museum Artistic, to delight the eye and dazzle the mind.

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The Museum Scientific, where the learned in classification work out the intricate mysteries of their systems, and pursue their special lines of research.

The Museum Scholastic, where students still at their classes find the illustrations of their text-books and lectures.

The Museum Educational, where the public generally are supposed to store their minds with useful knowledge.

The Museum Technological, where industry illustrates the ingenuity of its methods.

The Museum Personal, where the ideas and tastes of the individual are expounded.

The Museum Municipal, where all the objects of the other museums are supposed to be carried out under local restrictions, and where the public of towns and cities find a social institution of an attractive and intellectual character.

Various as museums are, in their contents no less than in their constitution, they have, nevertheless, many features in common, certain ends which all strive to attain. The improvement, whether of methods of exposition or of the system of administration, in any one museum, tends to the ultimate betterment of all. But the wide geographical distribution of museums renders personal intercourse between their officials and users a matter of much difficulty, so that the process of levelling up is slower than need be. The great value of this interchange of ideas has been abundantly proved by the annual congresses of the Museums Association. But these, limited as they are in time and space, cannot afford so natural an outlet for the views, inventions, or enquiries of everyone interested in museum matters, as can a widely-circulated publication appearing at more frequent intervals. The Executive Committee of the Association, in recommending the publication of a monthly journal, state in the circular sent to each museum, "It is expected that all museum officials connected with the Association will co-operate with the Editor in making the Journal a complete record of all matters concerning museums and art galleries, by contributing notes relating to their respective institutions, and by using the Journal in every way possible to promote inter-communication between individual museums and the general advancement of all." Thus may it be the means of making known what is excellent in any museum to all others! There are varying degrees of knowledge and differing ranges of experience amongst museum officials, who

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are never unduly bashful or churlishly reluctant in disseminating the fruit of their knowledge and experience, so that they are likely to welcome and support this, their own Journal, for diffusing, considering, and maturing all that is best for museums. The work of the Museums Association up to the present has shown the cordial manner in which the members strive to be mutually helpful, and it is gratifying to be able to provide the means for extending this usefulness by more regular intercourse than the publication of an Annual Report afforded.

Those whom this journal first makes acquainted with the Museums Association may be glad of a short history of that body. It was the outcome of a meeting held in York in 1888, at the invitation of the Council of the Yorkshire Philosophical Society. At this meeting it was decided to form a Museums Association, and the following were some of the subjects to which it was asked to give attention :—

1. Means of interchange of duplicate and surplus specimens.
2. Means of securing models, casts, and reproductions.
3. Scheme for a general supply of labels, illustrations, and information.
4. Uniform plan of arranging natural history collections.
5. Scheme for securing the services of specialists.
6. Improvement of library and museum legislation.
7. The indexing of the general contents of museums.
8. The promotion of museum lectures to working men.
9. Preparation of small educational loan collections for circulation among schools.
10. Concerted action for securing Government publications and also specimens, on loan or otherwise.
11. The issue of a Journal by the Association, and the collection of scattered original papers in the said Journal, if found possible.

The first Annual Conference of the Association was held in Liverpool in 1890. Since then there have been Annual Conferences in the following places :—1891, Cambridge ; 1892, Manchester ; 1893, London ; 1894, Dublin ; 1895, Newcastle-upon-Tyne ; 1896, Glasgow ; 1897, Oxford ; 1898, Sheffield ; 1899, Brighton ; 1900, Canterbury. Each year a volume of proceedings has been published, giving the papers read at the meetings and the discussions

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thereon, with notes on museum reports and publications. Much practical information has in this way been gathered together of lasting benefit to all museums.

The Association has steadily grown year by year, and now feels itself in a position to extend its field of operations. The Annual Conferences will still go on, and their proceedings will be published in this journal through the year; and at the same time there will be this monthly means of recording notes and news as they arise, with much greater fulness than could be done in an Annual Report. Obviously the co-operation of museums throughout the world is required to make the journal completely successful, and this the Editor and Council hope will be readily given. In addition to the Report of Proceedings at the Annual Meeting, the journal will contain :—

Current news of Museums and Art Galleries.
Descriptive Articles, with illustrations.
Reports of Museums.
Notes and Queries.
Correspondence.
Reviews of Books.

It will also furnish facilities for making known offers of exchange and sale.

Besides the matters first proposed for the consideration of the Association there have been repeated discussions on the subject of a general form of descriptive labels for museums. Some schemes have been submitted which, however, have not met with general acceptance, owing in some measure to the diverse needs of different museums. As a practical step towards helping museums in this matter, a descriptive label, framed rather to meet the requirements of the Educational Museum as previously defined, will be given each month. These will not follow any special order of subject, and will deal with large groups. Each will occupy one page, while a second page will indicate the divisions of the group, on which special descriptive labels may be written if desirable. The first label deals with British Pottery. The opinion of museum officials is invited on this and all other subjects dealt with in the Journal from time to time.

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EDINBURGH CONFERENCE, 1901.

ADDRESS BY THE PRESIDENT, PROFESSOR SIR WILLIAM TURNER, K.C.B., D.C.L., F.R.S.

The Public Museums in Edinburgh.

AS this is the first occasion on which the Museums Association has assembled in the Metropolis of Scotland, it may not be without interest to relate the rise and progress of the public museums in this city. Edinburgh is well supplied with museums of various kinds. As the seat of an ancient University, of a large Medical School, and of many societies engaged in the cultivation of Science, Art, and Industry, collections have naturally been formed and accumulated. In their first inception, either through an inborn disposition on the part of individuals to observe and accumulate, or through the influence exercised by some special occupation, objects of interest were collected, which in the course of time became transferred to public institutions.

Museum of Science and Art.

Chief in importance as regards the magnitude of the building in which it is housed, and the extent and variety of the objects which are lodged in it, is the Museum of Science and Art. The history of the rise of this museum is interesting and instructive. The original germ is to be looked for as far back as the later years of the seventeenth century, in the collections formed by two Edinburgh physicians, Sir Andrew Balfour and Professor Sir Robert Sibbald, who are memorable in the history of this city as having taken a leading part in establishing the Royal College of Physicians and the Physic Garden, the latter of which was the precursor of our present admirable Royal Botanic Garden. Both Balfour and Sibbald were indefatigable collectors, the former of natural curiosities generally, the latter, a leading naturalist of his time, of objects to illustrate the natural history of Scotland. Sir Andrew Balfour was apparently the first man in Scotland to form a museum, which he is believed to have presented to the University, for, although the bulk of the collection has disappeared, we still possess specimens, of one of which Morer, a contemporary writer, gave, in the year 1688, the following account:—"A crooked horn, divers inches long, cut out of a woman's head above the right ear, when

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she was fifty years old and lived twelve years after." This hypertrophied growth of the epidermis is now preserved in the Anatomical Museum, under my charge, with a silver plate attached, on which the following legend is engraved:—"This horn was cut by Arthur Temple, Chirurgion, out of the head of Elizabeth Low, being three inches above the right ear, before these witnesses, Andrew Temple, Thomas Burne, George Smith, John Smyton and James Twedie, the 14 of May, 1671. It was a growing 7 years, her age 50 years."

Sir Robert Sibbald was a great friend of Balfour's, and in his autobiography expressed his obligation to the latter for the information which he received from him. He states how he was led to take an interest in collecting, and his remarks, although written more than two centuries ago, will, I doubt not, find an echo in the minds of many of us at the present day. "I had," he says, "from my settlement here a designe to informe myself of the naturall history this country could affoord, for I had learned at Paris that the simplest method of Physick was the best, and these that the country affoorded came nearest to our temper and agreed best with us, so I resolved to make it part of my studie to know what animalls, vegetables, mineralls, metalls and substances cast up by the sea were found in this country, that might be of use in medicine, or other artes usefull to human lyfe, and I began to be curious in searching after them and collecting them, which I continued to do ever since."

In 1697, Sibbald printed a catalogue of the collection which he had formed, and dedicated it to the Senate of the College, to whom he presented his museum, which he obviously regarded as a supplement to the museum which had been formed by Dr. Balfour. As this is one of the earliest museum catalogues printed in Britain, it may interest you to see a reproduction of the title-page:—

Auctarium
Musæi Balfouriani e Musæo Sibbaldiano
sive
Enumeratio & Descriptio Rerum Rariorum, tam Naturalium quam Artificialium; tam Domesticarum quam Exoticarum; quas ROBERTUS SIBBALDUS, M.D., Eques Auratus, Academiæ Edinburgenæ donavit. Quœ quasi Manuductio brevis est, ad Historiam Naturalem.
Psal. civ.
O quam multa sunt opera tua Jova, qui cuncta sapienter fecisti, cujus verum plena tellus est.
EDINBURGI,
Impressum per Academiæ Typogratum, Sumptibus Academiæ, 1697.

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Sibbald's collection consisted of (1) "fossilia," under which term were included minerals, rocks, and metals; (2) vegetable substances; (3) rare productions from the animal kingdom; (4) works of art connected with the arts and sciences, along with pictures, manuscripts, and some rare books. Sibbald was the great authority of his day on the whales frequenting the Scottish seas, and his museum contained sixteen specimens illustrative of their natural history.

Two centuries ago, educational methods were essentially expositions in words, through the medium of lectures and books, and not by the demonstration of objects, and by the cultivation of the powers of observation. The enthusiasm and liberality displayed by Balfour and Sibbald were not, therefore, adequately appreciated, and did not meet with a proper response by the governing body of the College at the time, for no provision for the maintenance of the collections was made; and although certain of the pictures and editions of some of the books specified in Sibbald's catalogue are in the library of the University, the natural objects, with perhaps a few exceptions, can no longer be traced.

When Dr. Walker was appointed Professor of Natural History in 1766, he began to form a collection to illustrate his lectures; and on the foundation of the Royal Society of Edinburgh it was provided that the specimens of natural history which it should acquire should be placed in charge of the University. The natural history collections made, however, no great progress until the appointment of Professor Jameson in 1804. With great energy he applied himself for fifty years to obtain contributions from all parts of the world, and, in 1820, Jameson was enabled to lodge and display his splendid collection of animals, rocks, and minerals in two large halls built for the purpose, which formed the west side of the then recently completed quadrangle of the University. Jameson died in 1854; but before his death it became obvious that the collection had, under his rule, outgrown the spacious apartments reserved for it thirty years before in the buildings of the University.

During the year 1854, negociations were entered into between the Town Council of Edinburgh, then the patrons of the University, and the Lords of the Committee of Privy Council, for the transference to the Government of the Natural History Museum, with the view of instituting in Scotland a National Museum, embracing both a scientific and an industrial collection. The University Museum at that time consisted of objects which had been obtained partly by legacies to the University or by gifts from private individuals;

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partly by purchase from money grants from the Treasury; partly by the Principal and Professors having purchased for £4,013 the Dufresne and Bullock collections from trust funds under the administration of the Senatus of the University. The Dufresne collection consisted of 1,600 birds, 200 fossils, many invertebrate animals, and a few mammals. Some of the specimens were of great rarity, and now constitute important and valuable objects in the National Museum. At the time of Jameson's death the collection was regarded as, after the British Museum, one of the best in the country.

In 1855, a Deed of Agreement was effected between the Commissioners of Works and the Town Council, which was ratified in the same year by Act of Parliament; and it was a condition that the National Museum thus created was to be made fully available to the Professors of the University for instructional purposes. Dr. George Wilson, the Professor of Technology in the University, was made the first Director of the Museum, and the Regius Professor of Natural History was the Regius Keeper of the Museum. Professor Wilson died in 1859, and since then the office of Director has been held in succession by Mr. T. C. Archer, Sir Robert Murdoch Smith, and Mr. Grant Ogilvie. In 1873, Dr. Traquair was appointed Keeper of the Natural History collections, which then ceased to be in the charge of the Professor of Natural History.

Immediately after the transference of the collection to the Government Department, plans for a new building were designed by Captain Fowke, R.E. In 1861, the foundation stone was laid by the late Prince Consort, and in 1888, the edifice as you now see it was completed. During the thirty years that have elapsed since the building was commenced, under the energetic administration of the successive directors, with the co-operation of the scientific and industrial staff, and through the annual assistance of grants made by Parliament, for the completion of the building and for the provision of the necessary cases and other fittings, the museum has grown to large dimensions, and is a credit to the Government Department which controls it, and to the city in which it is situated. It provides, both as regards space and light, the means of displaying the extensive series of specimens in the several branches of Natural History and in the Industrial Arts, and it forms an important accession to our educational resources. The recent regulation that it is to be open free on each day of the week puts it in the power of even the poorest classes of the community to inspect and study its

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varied collections. The museum has now ceased to be under the Department of Science and Art, and its administration has been transferred to the Scottish Education Department.

Anatomical Museum of the University.

Side by side with the growth, during the eighteenth century, of the Museum of Natural History in the Edinburgh College, another important collection began to be formed in the same institution. The appointment by the Town Council, in January, 1720, of Professor Alexander Monro to the Chair of Anatomy in the College, gave an impetus to medical education such as it had not previously possessed. Although prior to this date professorships in medical subjects had been instituted in Edinburgh by the Colleges of Surgeons and of Physicians and by the Town Council, the opportunities of obtaining a training in medicine had been intermittent and unsystematic. As there was no proper provision in Edinburgh for the study of medicine, Monro was sent by his father to London, Paris, and Leyden. So marked was his progress, and so great was the promise of future distinction, that he was appointed to the chair when only twenty-two years of age, and in his first course is said to have had a class of fifty-seven students. During the six years succeeding, appointments were made to four additional professorships in the subjects of Medical Education, a Medical Faculty was established in the University, and a School arose in which systematic instruction was imparted, which during the eighteenth century gradually acquired a world-wide reputation. Although Monro was entitled Professor of Anatomy, his teaching embraced Surgery and such Physiology and Pathology as were included in the knowledge of the time. This combination, subject to such modifications as were demanded by the progress of medical science and by the formation of additional professorships, continued during the tenure of the chair by his son and grandson up to the year 1846. The formation of a museum is essential to those who undertake to teach Anatomy. Monro *primus*, when a student in London and on the Continent, had begun to make anatomical preparations, which he sent to Edinburgh. At first they were kept in the College of Surgeons; but as an Edinburgh mob had threatened to burn that College, Monro moved his collection to the University, where it formed the nucleus of his teaching museum, and during his incumbency of the chair the collection continued to grow. His specimens were made and employed for instructional

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purposes; and as he illustrated the anatomy of man by the dissection of quadrupeds, fowls, and fishes, his museum combined human with comparative anatomy.

Monro *primus* was succeeded by his eldest son, also called Alexander, who occupied the Chair of Anatomy in the University for about fifty years. The second Monro was one of the greatest teachers of Anatomy of the eighteenth century. He was an indefatigible worker at human and comparative Anatomy and Pathology. His museum grew in accordance with his work, and became rich in specimens in illustration of the subjects on which he conducted investigations. I may especially refer to his researches on the lymphatic system and the ducts of glands, in illustration of which he made many beautiful injections with mercury, an injecting medium in the use of which he displayed great dexterity. In 1800, he presented to the University the collection formed by himself and his father. The comprehensive character of the teaching of the Monros, father and son, during the eighteenth century is illustrated by the terms of the deed of gift of the museum, by the second Monro, "to be used by his successors for the purpose of demonstrating and explaining to the students the structure, physiology, and diseases of the human body."

The Anatomical Museum of the University received few additions during the incumbency of the third Professor Monro, except in the pathological department. The appointment of Mr. John Goodsir, at first to the office of Demonstrator of Anatomy, in 1844, and two years afterwards, on the resignation of Monro, to that of Professor of Anatomy, marked a new departure. Goodsir was an enthusiastic anatomist, with a wide knowledge of both the Vertebrata and Invertebrata. His desire was to establish in Edinburgh a museum on the same lines as the great museum in London founded by John Hunter. Aided by accomplished assistants, he undertook an extensive series of dissections to illustrate the modifications in structure in different animals. Like the second Monro, he was a skilful injector of the vascular system, and the museum contains a number of specimens to illustrate the vascularity of the different organs in animal bodies. From the numerous additions which he made to the collection, the specimens outgrew the space provided for the accommodation of the Monro Museum, and their proper display became impossible.

On my appointment to the Chair of Anatomy in 1867, I determined to avail myself of the first opportunity to obtain adequate

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space for the collection formed by my predecessors and for the additions made by myself. Accordingly, when arrangements were made in 1876 for the building of a new Medical School to accommodate the increase in the number of students, and to make proper provision for practical teaching, I made a claim for space for a museum sufficiently large to display the existing collection and to provide room for future additions.

Plans were prepared by the architect to the new Medical School, R. Rowand Anderson, LL.D., in consultation with me, and the Anatomical Museum, through which I hope to have the pleasure of conducting you, arose as a necessary adjunct to the class rooms and laboratories of the school, and was completed in 1885. As this is one of the largest of the most recently constructed museums associated with the display of anatomical objects, I may be pardoned for giving a short description.

The question was discussed whether the museum should consist of several separate rooms of almost equal dimensions, or of a large central hall with subordinate apartments, and it was decided to adopt the latter alternative. The main building consists of a great hall 112 feet long, 39 feet wide, and 41 feet high in internal dimensions. It gives a superficial floor space of 4368 feet, and is surrounded by two galleries, access to both of which can be obtained from the floor by a staircase at each end of the hall. An external roof equal in length to the hall forms a ridge, with two sloping sides filled with glass. Within this is a horizontal ceiling divided into panels, which are filled with ground glass, transmitting a soft, diffused light. This arrangement prevents dust from finding its way through the outer roof into the museum, and on to the objects which are not contained in cases, and between the roof and the glazed ceiling is a space and gangway sufficient to enable a man walking upright to remove any dust which may accumulate on the glazed ceiling.

The height of the hall permitted two galleries to be constructed, and as the students have access to them for the purpose of examining the objects, it was necessary that they should be sufficiently wide to enable free movement to and fro. Had the museum only been lighted from the roof the galleries would have cast a shadow on the floor and obscured the objects placed under them. Windows were therefore pierced in the side walls below the lower gallery, so as to ensure more complete lighting, an object which I think you will admit has been obtained. To diminish also the casting of a

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shadow by the upper gallery on that below it, the floor of the upper gallery has been constructed of thick sheet glass set in iron frames.

Projecting on the floor from the side walls in the intervals between the windows are glass cases, which reach as far as the front of the lower gallery, and in these cases the skeletons of the smaller animals are arranged. The cases on the end walls do not, however, project so far into the hall as those on the side walls.

In the intervals between the projecting cases, glazed table cases are fixed below the windows for the exhibition of the smaller objects, and below these are cabinets of drawers for the storage of specimens. The remainder of the interval contains a table and chairs for the use of students. In the construction of the museum all superfluous ornament was rejected, for the proper decorations of a museum are the objects exhibited in it. No pillars were introduced for the support of the roof and galleries. The wood-work of the cases is mahogany, which gives more tone and richness than is obtained by the use of oak, and the cases are glazed with French plate. The shelving in some of the tall floor cases is strong plate glass, in others gridiron shelves of thin steel bars, so as to permit of the transmission of light throughout the case. The shelves are supported on hollow rods made of gas piping, which are adjustable at different heights by a simple rack arrangement. As the majority of the cases are uniform in shape and size the shelving can be transposed from one case to another should that be found necessary.

As the specimens in the upper and lower galleries are contained for the most part in glass jars and are usually preserved in spirit, neither glass nor metal gridiron shelving was applicable, and wood had to be employed. The shelves are not enclosed in glass and are not fixed, but capable of being adjusted at different levels to suit the height of the jars.

Around the front of each gallery is a table case, which gives much additional space for the display of smaller objects, whilst the ends of each gallery are occupied by tall cases with glass doors, in which specimens that require special protection can be preserved.

In the arrangement of the specimens the primary use of the museum as a teaching collection had to be kept in view, and facilities had to be provided for moving objects to the lecture rooms, in which they would be needed for illustration. As the departments which require to use the pathological specimens are in the upper floor of the building, the upper gallery of the museum has been

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devoted to morbid anatomy. At each end of the gallery is a doorway which communicates with the departments concerned, so that the specimens can be readily carried to and fro. The passage of communication is closed at night by an iron door as a protection against the spread of fire, should one arise in an adjoining department.

In the lower gallery of the museum are preserved dissections to illustrate the comparative anatomy of man and amimals. By means of a lift worked by the hand the specimens can be taken up and down without encumbering the staircase.

The floor of the museum is on the same story as the anatomical class room, and the specimens employed in the illustration of the lectures can be readily moved from one to the other. The central part of the floor is devoted to the display of the skeletons of the larger animals, some of which are enclosed in glass cases.

A hall of the magnitude of the one under consideration necessarily has a great space between the roof and the floor, which I have utilized for the display of the skeletons of the Cetacea in the collection. The position of Edinburgh so near to the Firth of Forth, and the fact that whales and dolphins were not unfrequently stranded on the coast, led me more than thirty years ago to commence to collect these animals whenever practicable; and although I have not secured every species frequenting the seas of Scotland, you will see a greater variety of our native species than exists, I think, in any other museum. In advising on the constructional arrangements of the museum, I had in view the proper display of the skeletons of these animals, some of which are of considerable weight. I discarded the plan adopted in some museums of supporting them on iron pillars secured to the floor, and decided to have them suspended from the roof. For this purpose the architect fixed at intervals into the roof, below the horizontal ceiling, strong steel bars extending across the hall from side to side, from which the skeletons could be suspended. Instead of stiff iron rods for the suspension, such as are employed in the Museum of the Royal College of Surgeons of England, light steel chains have been used, which give a more elegant appearance. By this plan, the great central space of the hall is well occupied; and without much effort of the imagination one can realize how these monsters of the deep float and move in their native element.

At one end of the great hall is a cabinet, 18 feet high, and with 300 superficial feet of floor space, around which is a light gallery. This cabinet is occupied by a large collection of crania of the races

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of men, gathered in various parts of the world, and for the most part presented by former pupils, so that it forms a very representative collection. With the consent of the Henderson Trustees, the specimens forming the old Phrenological collection have been incorporated with it.

At the opposite end the hall opens into a vestibule, which in its turn communicates with work rooms and apartments for the storage of specimens. The museum and its subordinate apartments occupy one side of a court yard in which the rougher work of the comparative anatomist can be conducted in the open air, and in which a room for cleaning skeletons has been built.

Botanical Museum.

The Professor of Botany in the University is at the same time the Regius Keeper of the Botanic Garden, and conducts his classes in the garden. As an adjunct to the teaching of the subject Professor John Hutton Balfour, who for thirty-four years occupied the chair, commenced to form a collection, and in 1851 obtained the use of a room in the garden for its display. The specimens were principally contributed by the Professor and his pupils, and were intended to supplement the teaching of botany in regard to the structure and forms of plants, and their economic and medicinal products and uses. Though primarily prepared for the instruction of the students of botany, yet as the museum was open to the public, they could be seen and examined by all visitors to the garden who took an interest in the subject. Under the care of the present Professor, Dr. Bayley Balfour, the collection has been to some extent re-modelled, with the view of illustrating the life history of plants, their relation to and adaptation to environment, as shewn both in form and structure, and in pathogenic and abnormal conditions. As provision is made in the Museum of Science and Art for the exhibition of specimens to illustrate the economic and technical uses of plants, the botanical museum in the gardens does not now touch that branch of the subject, except in so far as it involves the diseases.

The Treasury has recognised the importance of the Museum as an adjunct to the Botanic Garden, and as permitting points of structure to be displayed which cannot be readily observed in living plants as exhibited to the public. It has also recognised that additional accommodation will eventually be required for the display of the ever growing collection, and that financial provision for its maintenance is necessary.

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Fine Art Museum.

As our Association is holding its meeting in the Fine Art Department of the University, it is appropriate to say a few words on the collection contained in it, which, though not a public museum in the proper sense of the word, illustrates how a museum naturally takes shape in a department of a University, where object teaching is imperative.

The Chair of Fine Art was founded in the University about twenty years ago, in memory of the late Sir John Watson Gordon, P.R.S.A. In 1880, Mr. Gerard Baldwin Brown was appointed the first Professor, and he at once began to form a collection to illustrate his courses of lectures. Shortly afterwards a sum of money, bequeathed by the late Robert Cox, W.S., for the erection of a dome to complete the design of these buildings, became available, and the architect, Dr. Rowand Anderson, provided a large apartment within the dome for the display of the Fine Art Collection. A visit to this room will give you the opportunity of seeing a representative series of casts, photographs, and drawings, which have been gathered together by the Professor during the period subsequent to his appointment.

Museum of the Royal College of Surgeons.

The Royal College of Surgeons of Edinburgh is the oldest medical and surgical corporation in the United Kingdom. It received its first charter from James IV. in July 1505, eight years before the battle of Flodden Field, seventy-eight years before the foundation of the University, and one hundred and seventy-six years before the Royal College of Physicians of Edinburgh was incorporated by Royal Charter. In the original charter of the "surregeanis and barbouris" it is provided that before anyone can be admitted to "the maisteris of the said craft" he must be "deligentlie and avysitlie examinit" on "anatomea," "flewbothomea," and "the nature and substance of everything thatt he wirkis." Each year the Incorporation of Surgeons had placed at its disposal the dead body of "ane condampnit man" for the purpose of affording instruction in anatomy. Prior to the end of the 17th century a medical school and hospital did not exist in Edinburgh, and the instruction imparted to young practitioners seems to have been given exclusively by individual practitioners to those who were their apprentices. In the last decennium of that century, however, an attempt seems to have been made to introduce

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collective action in the direction of teaching, and an anatomical theatre was built by the Incorporation of the Surgeons. In 1694, Alexander Monteath obtained permission to teach anatomy, and it was provided that "ane public anatomicall dissection" shall be shown in it once a year. The minutes of the college shew that in 1704 the theatre was used for purposes of anatomical demonstration by several of its fellows. In 1705 Robert Elliot was appointed Professor of Anatomy, and it was stipulated that he was to take "exact notice and inspection of the rarities in the Colledge, and that ane exact inventar be made of the same." From this extract from the records it is obvious that a collection had begun about this time to be formed. In 1702 the famous Dr. Pitcairn presented a human skeleton, and Monteath himself is recorded to have given "ane egyle" in 1709. It is also stated that in 1706 the College had a law suit with the magistrates of Dundee about the carcase of "ane elephant." The Museum also contains a skeleton presented by Monro *primus* in 1718. A collection for teaching purposes seems therefore to have been started, but there is no definite evidence that it made any appreciable growth for many years.[1]

In the last quarter of the 18th century the practice arose in Edinburgh of the delivery, outside the University, by Fellows of the Colleges of Physicans and Surgeons, of courses of lectures on branches of medical education. One of the most distinguished of these teachers was Mr. John Bell, who lectured for about thirteen years on anatomy and surgery, and naturally formed a collection for teaching purposes. John Bell was the elder brother of the more famous Charles Bell, who holds an imperishable place in the history of physiological discovery of the functions of the nervous system. Charles Bell was his brother's pupil, and succeeded him as lecturer on anatomy and surgery, but in 1804 he migrated with his own and his brother John's collection to London, where he taught for about thirty years, and accumulated a large and valuable set of specimens, some of which had formed the museum of Mr. James Wilson, who for several years had been associated with Bell in the delivery of the lectures in the Hunterian School of Anatomy in Windmill Street. Having decided to dispose of his museum, Charles Bell sold it in 1825 to the Royal College of Surgeons of Edinburgh for a considerable sum of money, and the anatomical preparations were accompanied by a beautiful set of drawings from the graceful pencil of Bell himself.

[1] I am indebted for these and other particulars to the Historical sketch of the College by the late Dr. John Gairdner, Edinburgh, 1860, and to the Historical sketch of the Edinburgh Anatomical school by Sir John Struthers, 1867.

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John Bell was also the master of another famous teacher of anatomy in Edinburgh, Dr. John Barclay, who lectured on the subject for twenty-seven years, 1797 to 1825. During this period he formed an extensive museum of human and comparative anatomy, which he bequeathed to the College of Surgeons in 1826, on consideration that it should be rendered useful and should retain his name.

By the acquisition of the Bell and Barclay collections, the College had obtained a museum worthy of its position as an important surgical corporation and of the rank which it had attained in 1778 as a Royal College. A suitable building for the accommodation of the collection, and for the discharge of the administrative duties of the College, became necessary, and the celebrated architect, William Henry Playfair, who did so much for the architectural adornment of the city during the earlier years of the last century, was entrusted with the preparation of the design. The new museum was inaugurated in 1832, under the presidency of the historian of the College, the late Dr. John Gairdner; and a special room was set apart for the display of the Barclay collection. The duty of arranging the specimens and preparing a catalogue was entrusted to the well-known naturalist, Dr. Wm. Macgillivray. Since that time the collection has received numerous additions through the contributions of the Fellows of the College, of whom I may especially name the late Sir John Struthers, who presented an important series of anatomical specimens, which he had accumulated during his long service in Edinburgh and Aberdeen as a teacher of anatomy. The museum, from its association with a professional body, is not a general collection, but is admirably organised to supply the wants of those who are engaged in medical and surgical education; and by permission of the College is thrown open to the public.

National Museum of Antiquities.

Robert Burns, in his amusing poem on Captain Grose, the antiquary, describes him as one who

> "had a fouth o' auld nick-nackets,
> Rusty airn caps, and jinglin' jackets,
> And parritch-pats, and auld saut-backets."

Walter Scott, in one of his best novels of Scottish life, has depicted an antiquary as he presented himself in the last ten years of the eighteenth century, about the period when the Society of Antiquaries of Scotland came into existence.

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The desire to possess articles, at one time the property of our ancestors, is without doubt deeply implanted in human nature. Many families look with affection on some object or other which had belonged to parent or grand-parent, and, in a smaller number of households, articles which had been in possession of still more remote ancestors, or had, perhaps, been associated with some historical event, are preserved with satisfaction and pride. The collection of such objects by private individuals living in different parts of the country, the possibility of loss when families are dispersed, and at times, perhaps, a want of due appreciation of their significance, deprives them of the educational value which they would possess, were they collected together and arranged, so that they could be compared with each other, and their historical position more accurately determined.

It was with a sense of the advisability of establishing a permanent repository for the preservation of national antiquities that in 1780, on the invitation of the Earl of Buchan, several gentlemen met together in Edinburgh and decided to establish the Society of Antiquaries of Scotland, and in 1783 the Society received from George III. a Royal Charter of Incorporation.

Donations at once began to be received, consisting of ancient weapons, dresses, charters, historical papers, poems, and coins, and it is stated that during the first ten years 16,000 articles had been presented by 1130 donors. It became obvious therefore that the institution of this society with its museum had supplied a national want. The continuous growth of the collections in the course of time so seriously taxed the resources of the Society and crippled its power of publishing the communications made to it, that it became necessary to appeal to the Treasury to take charge of the collection and to make it a National Archæological Museum for Scotland. After a four years' negotiation this was effected, and in 1851 the Society made over to the Crown, as public property, the whole collection of antiquities, coins, medals, books, &c., which it had gathered together during seventy years. In accepting this gift for the nation it was agreed that, whilst the Treasury provided fit and proper accommodation for the preservation and exhibition of the collections to the public, the curatorship of the collections should remain in the hands of the office-bearers of the Society of Antiquaries.

Four or five years after rooms were provided for the museum in the Royal Institution Buildings, Princes Street, where they remained on exhibition for more than forty years. As with other museums, the

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constant addition to the number of specimens, by gift or by purchase, absorbed in the course of years all the available space, and many objects could not be exhibited. Fortunately a wealthy and public spirited citizen, the late Mr. John Ritchie Findlay, had conceived the idea of building and presenting to the Scottish people a National Portrait Gallery, and as he had for many years been an active member of the Society of Antiquaries, he determined to provide accommodation in the same building for the continually growing national archæological collection. The handsome gallery in Queen Street from designs by Dr. Rowand Anderson was formally opened in 1890, and the specimens have now been arranged in historical sequence under the personal supervision of Dr. Joseph Anderson, our great living authority in Scottish archæology.

The City Museum.

Unlike many of the cities in England, Edinburgh does not possess a municipal museum, in the sense in which that term is understood by so many of my auditors. The several public museums of which I have given you a brief account, and more especially the great Museum of Science and Art, administered by a department of the State, have rendered unnecessary the formation and maintainance of a general museum by the city authorities.

About ten years ago, however, one of the magistrates of Edinburgh, the late Bailie Dunlop, who was intimately conversant with the history of his native city, and himself a collector of local antiquities, set aside, along with some of his colleagues in the Town Council, one of the rooms in the municipal buildings, for the reception of objects to illustrate the history of the city, or which might be of interest to the antiquary. In the reconstruction of the City Chambers, which is now going on, the opportunity has been taken to provide a suitable apartment for the display of the specimens, which have been acquired partly by gift or bequest, and partly by purchase. A visit to this museum will give you the opportunity of seeing many objects of historical interest; it also shows how rapidly a collection tends to grow when a suitable apartment is provided for the reception of the specimens and care is taken in their preservation.

I hope that I have not wearied you with the details of the rise and purpose of the various museums which are open for your inspection in this city. One point must, I think, have struck you in the course of my narrative, that the majority of these collections owed their origin to a desire, on the part of those who initiated them,

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to illustrate the branches of knowledge, in the teaching of which they were occupied, by the display of the objects themselves. Edinburgh, perhaps more than any other city in the empire, is engaged in education as one of its prime industries, and it has realised the importance of object teaching; but many of our museums are intended, also, to serve another purpose than the exhibition of specimens; they are working collections to be used in the daily task of imparting instruction. As some of our museums have attained a respectable antiquity, they also express the historical evolution of the subjects which they are designed to illustrate, and they furnish a record of scientific activity and research; the specimens being there to appeal to should questions arise as to the accuracy of the descriptions or drawings of the objects which have been published. I cannot but think that in the case of objects which display the structure of animals and plants, the fact that the specimen is to be preserved will tend to greater precision and accuracy of observation on the part of the describer, than if they were destroyed as soon as the examination is concluded.

I am so far conservative in museum administration that no specimens which have been described or quoted in the literature of the subject to which they refer, should in my judgment, ever be put away or destroyed. Although they may be thought antiquated, and superseded perhaps by more recent observations and discoveries, and not so elegant and attractive as to retain their place as show specimens, they should be preserved in the store house of the museum as records of the handiwork of those who made them, and of the period in which they were designed and displayed.

Several of our museums also throw an interesting light on the development of education in Scotland. It is obvious that in the early years of the 18th century a great awakening occurred in this city. Notwithstanding the troubles connected with the Revolution settlement of 1688, and the disturbances attendant on the Hanoverian succession and two successive Jacobite risings, a number of sagacious and able men, in spite of the sparse population and poverty of the country, recognised the necessity of providing an expansion of University education in the direction of science and medicine. Instead of the Scottish youth being required to go to Holland, Italy, or France, to obtain a University training and degree in medicine, as had been the custom, they resolved that provision for their education should be made at home. They appreciated the importance of basing the study of medicine on a systematic training in the

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fundamental sciences of botany, anatomy, and chemistry. They provided chairs in the University and a Botanic Garden for the teaching of these subjects, and so far as the circumstances of the time admitted they commenced the formation of museums. It is the duty of this and succeeding generations to continue in the task so worthily begun two centuries ago, and in our objects and methods to see that our collections maintain their place as important aids to education and research. In the furtherance of this object, so far as the Universities are concerned, it will interest many of you, as administrators of museums, to hear, that the trustees of the noble gift which Mr. Andrew Carnegie has made to the Scottish Universities for the advancement of education, are empowered to provide that it may in part be applied to the extension and improvement of scientific study and research by the erection and equipment of museums.

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A Museum Label.

BRITISH POTTERY.

VESSELS made from clay have been known in Britain from the earliest times, though it is only within the last two centuries that they have become of general use. The Ancient Britons used clay to make the urns in which the calcined bones of their dead were placed, and they had no definite objects of domestic use in pottery. The urns were formed by hand from clay mixed with gravel, ornamented by impressions made by the hands, some bone instrument, or fibre, and probably baked in the large fires kindled for the purpose of cremation. The Romans when they invaded Britain brought many of their arts with them, and their pottery shows a great advance, being turned accurately on a wheel, sometimes with an elaborate pattern of raised or depressed ornamentation, though they used few varieties of clay. The Anglo-Saxons fell back to a more primitive form of pottery, which also was shaped by turning, had sometimes raised and sometimes painted ornamentation on it. The objects were chiefly urns, vases, bowls, or dishes. The manufacture of pottery in England for general use commenced about the end of the sixteenth century, though prior to that time pottery and porcelain had been imported from the Continent and from China. The introduction of the Cologne stone ware known as the "Grés de Flandres," led to the attempt at producing similar stone ware in England. Numerous manufactories gradually came into operation in various parts of England, until pottery has now become one of the commonest materials for domestic and commercial purposes.

The manufacture of porcelain, which consisted of a white and more transparent paste, appears to have been commenced about the year 1671, at Fulham.

The ingredients used in the manufacture of pottery or earthenware consist of clay, kaolin chiefly prepared in Cornwall from granite, and flint. These are ground and mixed with water in proportions suited to the kind of paste required. They are then heated in a kiln to the consistency of dough. Metallic oxides or coloured clays are added when coloured pastes are required. The objects are then formed, either by moulding or turning on a potter's wheel or lathe. After being sufficiently dried they are placed in a kiln, heated for several days, and when drawn out are known as biscuit ware. This is white and porous, and may be painted with certain colours, or it may receive transfers from engravings, thus producing printed ware, which is hardened in a kiln. It is then dipped into a prepared substance to form a glaze, and again placed in a kiln moderately heated. As many colours suffer under heat they are often applied on the glaze, these being enamel colours, formed of glasses of different kinds mixed with metallic oxides.

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The following are some of the most noted places in Britain for the manufacture of pottery and porcelain :—

Bow, or Stratford-le-Bow, Middlesex. Manufacture of porcelain commenced in 1744, and it passed into the hands of Mr. Duesbury in 1776, who transferred it to his Derby works.

Bristol pottery was made from an early date to 1837, and porcelain was manufactured there from 1765 to 1782.

Chelsea porcelain started about 1684. These works were acquired by Mr. Duesbury in 1770, who transferred the manufacture to Derby.

Coalbrookdale or Coalport. Factory founded between 1780 and 1790. Absorbed the Swansea, Nantgarw, and Caughley potteries.

Derby potteries founded before 1790 and still continue.

Fulham claims the honour of the first discovery of porcelain in England. John Dwight obtained a patent for its manufacture there in 1671.

Lambeth pottery was first produced by a Dutchman in 1676.

Doulton's Lambeth pottery was established in 1818.

Leeds ware. First reliable date 1760. Noted for Queen's ware and basket patterns.

Liverpool ware first made in 1752. John Sadler, the Liverpool potter, was the discoverer of the process of transfer printing, so common on Liverpool ware.

Lowestoft ware. Much of the pottery formerly ascribed to this place is now considered to be Oriental.

Plymouth provided the first English China factory from native materials in 1768.

Rockingham pottery was made at Swinton, near Rotherham, in Yorkshire, on the estate of the Earl of Rockingham, from 1745 to 1807.

Salt glazed ware was first imported from the Low countries, and was first made in England in 1671.

Staffordshire potteries are amongst the earliest and exist to the present day. Mason's Ironstone China was made at Lane Delph, Staffordshire. Elers' ware was first made at Bradwell in 1690. Elijah Mayor began business in Hanley in 1770. Turner ware was made at Longton from 1762. Longport has still many potteries. One of the earliest there was started about 1760.

Sunderland potteries first established about 1755. A pinkish lustre is sometimes introduced into the decoration of this ware.

Swansea pottery established in 1678. Later it was associated with the Nantgarw works.

Toft ware belongs to the Slip decorated ware, dated 1612 to 1712.

Wedgwood ware is associated with Josiah Wedgwood, the greatest of English potters, who settled at Burslem as a potter in 1759.

Worcester porcelain, 1751 to present day.

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General Notes.

AT HOME.

Mr. E. Leonard Gill, B.Sc. of the Manchester museum, Owens College, has been appointed curator of the Natural History museum, Newcastle-on-Tyne, in succession to the late Mr. Richard Howse.

Mr. Thomas Sheppard, F.G.S., has been appointed curator of the Municipal museum, Hull, which has been transferred to the Corporation of that town, under whose spirited management, there is every reason to believe, its development will be accelerated and its usefulness extended.

Mr. Walter J. Hall, formerly of the Leicester museum, has been appointed assistant in the geological department of the Manchester museum, Owens College, in place of Mr. E. Leonard Gill.

Amongst the distinguished visitors received at Windsor Castle by the King and Queen in connection with the visit of the New York chamber of commerce, was Mr. Morris K. Jesup, who besides being president of the New York chamber of commerce is also president of the American museum of Natural History.

The death is announced of Mr. Edward Crane, F.G.S., of Brighton. For twenty-eight years he was a member of the museum sub-committee in that town, and its chairman from 1885 to 1893. In its report for the years 1891-2 he published a "List of the Type Specimens in the Brighton Museum," and when the collections were removed from the Pavilion to the present building in Church Street he helped in the arrangement of the geological gallery. He died on April 25th, 1901, in his 79th year.

In the department of prints and drawings at the British museum, Bloomsbury, has been recently arranged a collection of drawings by British and foreign masters, which have been acquired chiefly within the last five years. A guide to the collection has also been published, and includes works by the most eminent men of the British school of the last century. A large number of the most interesting drawings shown, both foreign and British, come from the bequest of the late Mr. Henry Vaughan, who died in 1900, leaving to the trustees of the British museum drawings and sketches to the number of nearly 400.

The National collection of lepidoptera preserved in the Natural History museum at South Kensington has (according to the *Entomologist* for June) recently been greatly enriched by the addition thereto of the almost unique collection of butterflies from Europe and central and eastern Asia, together with the collection of European moths formed by the late Mr. John Henry Leech, of Hurdcott House, Salisbury. Arrangements had been made during Mr. Leech's lifetime under which the museum became possessed of

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his eastern Asian moths, and now the same public institution has acquired the still more important accessions adverted to, through the munificence of his mother, Mrs. Leech, of Kensington Palace Gardens. The museum authorities will publish a catalogue of the butterfly collection, so that it is perhaps only necessary to mention here that of *Rhopalocera* there are rather more than 18,000 specimens, representing some 1,100 species, among which are over 400 male and female types of species described by Mr. Leech. The collection of Palæarctic butterflies is very rich in Chinese and Japanese species, and in local forms and in aberrations of European species. The European *Heterocera* number about 23,000 specimens, including some fine aberrations and extensive series of the variable species. The collection of eastern Asian moths, from which the museum had already made a selection, comprised nearly 3,000 species, of which about 800 were made known to science by Mr. Leech.

The Board of Education has recently made a new regulation requiring museum authorities who receive loans from the Victoria and Albert museum to insure them against fire and theft. This regulation has come into operation in consequence of certain thefts that have occurred from museums, though it is rather remarkable that these thefts have been chiefly from national museums, or the larger institutions which are provided with fairly big staffs. Still, the proposal is a perfectly reasonable one, and as it has received attention at the conference at Edinburgh, further reference will be made to it in a future issue of the Journal.

Art lovers will be gratified to know that the remarkably fine Sanderson collection of decorative old Wedgwood, formed during the last ten years, is now arranged for exhibition at the Museum of Science and Art, Edinburgh, and that it may be inspected at any time when the museum is open. The collection may not be one of the largest, but for quality and importance it will take first rank. As it numbers 490 examples, with no duplicate specimens, all coming from over thirty well-known collections formed during the last century and dispersed owing to the death of the owners, it cannot be considered unimportant. The collection includes every known variety of colour used in Wedgwood's "jasper" material—even of the rare black and white variety. The old-time collector found it difficult to acquire even five pieces of this very limited colour in a lifetime, but this collection includes over forty pieces. There are two specimens of the rare pink plaques; so rare are these that at the loan exhibition of old Wedgwood at Liverpool in 1879, when every collector contributed, the selecting committee could not procure a plaque of that colour to exhibit—only one medallion.

The outcome of those interesting and comprehensive picture exhibitions organised by Canon Barnet at Toynbee Hall, is the permanent establishment of a handsome art gallery at Whitechapel, containing room for the exhibition of about 500 paintings. The building was opened in March by the Earl of Rosebery.

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The corporation of Sheffield have lately acquired a large park at the east end of the city, and as there was a commodious house in it they have decided to devote this to the purposes of a museum. It is intended to illustrate in it the history of Sheffield by means of drawings, plans, and other historical objects, as well as to give examples of art applicable to the various industries of the city. There will also be a general collection of pictures, and a room specially arranged for the study of natural history by the teachers and scholars in the elementary schools.

The announcement that the museum of the Essex Field Club is now being classified and re-arranged in its new home at Chingford should be interesting not merely to students of natural history but to all lovers of Epping Forest. The collection is exclusively local, but naturally it is to a great extent illustrative of that magnificent woodland. The club was recently granted the use of Queen Elizabeth's Hunting Lodge at Chingford for its head-quarters, and the corporation of the city have thoroughly restored it in a careful and conservative spirit.

A new museum has been prepared at Burns' cottage, Alloway, for the reception of relics and interesting objects connected with the life and work of the poet. Many of these are well known from having been exhibited in the old museum attached to the cottage, and now demolished; but many of them are new, and are now on public view in the new hall for the first time. The objects comprise portraits, prints, various editions of the poet's works, and personal relics.

Municipalities have been so busy lately in municipalising various sorts of profitable undertakings that there is some danger of them losing sight for the time being of those deeper reaching forms of municipal advancement that do not come under the category of productive works, inasmuch as there is no financial return from them. And of all places least expected this remark applies in special degree just now to the progressive city of Birmingham. There has always been considerable pride in the art gallery there, and all who are acquainted with it will readily admit that it contains valuable treasures. The building itself is hardly worthy of them. An imposing and lofty exterior gives an impression outside of a large, commodious, and suitable interior, but when the visitor enters he finds that the art gallery is confined to a portion of the top floor of this building, the first room in which is so lighted as to show the reflection of everything except the pictures it is intended to display. In the next room iron staircases and side galleries take away every feeling of art. The city council has been asked to remedy this state of things by erecting a new art gallery of more adequate dimensions and greater suitability, and as an incentive to them to proceed with it a distinguished citizen, who is also a member of Parliament, made an offer of some valuable and desirable pictures, contingent upon a new gallery being provided; but Birmingham confesses to having too many expensive schemes on hand, therefore

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the question of a new gallery stands over. Perhaps it would not be right to attribute this lack of appreciation of the loftier attributes of municipalisation to too great consideration of its commercial aspects, for there is an example of quite the opposite kind in Glasgow, which stands in the foremost of all the cities of the kingdom for its civic enterprise, and also leads the way in having just inaugurated the finest art gallery and museum of any city in the kingdom.

At the rooms of the Society of Antiquaries, Burlington House, are exhibited the antiquities found during the excavations at Silchester last year. The display is an extensive and important one, and in a striking manner enforces the desirableness and even necessity of the systematic and careful exploration of all sites of ancient habitation in this country. Local museums should pay some attention to such matters, and urge their claims to financial support from city and county councils to carry out digging operations. In this connection Professor W. Boyd Dawkins recently gave a popular address in the Manchester museum on Lancashire and North Wales antiquities, in which he referred to the many evidences of celtic occupation indicated by "barrows," "lows," &c., scattered over the country, many of which await the labours of the antiquarian, if they are not first obliterated by the work of the plough, or by the inroads of industry.

In a paper on "Early Defensive Earthworks," by Mr. I. Chalkley Gould, read before the British Archæological Association, he thus urges the subject on museum authorities:—"There is another body of men who could render good service towards popularising our subject; I refer to the curators of our public museums, who might easily enlarge small plans provided by the Archæological Societies or printed in the 25-in. Ordnance Survey, and exhibit large-scale plans such as those I show to-night, which are all on the scale of 100 ins. to the mile. Museum authorities would, no doubt, be able to provide more finished plans and diagrams than these, which are the hasty results of hurried visits: but even these would be of some interest on the walls of museums. I hope the day will come when no museum curator will be satisfied to be without a complete series, covering all the forts in the neighbourhood or county."

There have been numerous letters recently apropos of this subject in the *Standard*, urging the desirability of unearthing the buried history of Early Britain. The following two extracts are very pertinent to the question:—"Early Britain lies buried and unexplored. We have sent explorers to Chaldea, Egypt, and other countries, and through them has been revealed to us much of the manners and customs of the ancients who lived from four to six thousand years ago; but, of our own country, beyond nineteen hundred years, we know scarcely anything but the little that is told us by Julius Cæsar in his Commentaries." Another writer says,—"Take for instance Old Sarum, which affords a whole sequence of occupations, British, Roman, Saxon, Danish, Norman, and finally English. In the central plateau, and under the ploughed acres between the central

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and the outer rings, lies buried our national and ecclesiastical history from the time of the Druids to the founding of the cathedral at New Sarum. This could be laid bare without in the least disfiguring the appearance of the place; and yet there the records of the past remain buried, whilst learned pundits write all sorts of surmises as to its ancient history, and sufficient curiosity has not even been aroused to clear out the old well in the centre of the ruin to ascertain what treasures have either fallen in or been thrown into it during troublous times."

ABROAD.

The Natural History collections of the National museum at Melbourne, hitherto housed in the grounds of the university (as described by F. A. Bather, *Report Mus. Assoc.* for 1894, pp. 221-226), have been moved to the buildings occupied by the Library and National Gallery, nearer the centre of the town, and on the Russell Street frontage a new Natural History museum is being erected, which, when complete, will be in part three, and in part four, stories high. Professor Baldwin Spencer tells us what is proposed in "The Victorian Naturalist" (XVII., pp. 14-16). "On the basement, partly below the level of the street, will be extensive work-rooms for taxidermists, articulators, carpenters, &c., as well as store-rooms. The first floor will consist of a main entrance hall, 110 feet by 55 feet, and on the south side of this will be store and work rooms connected with the vertebrate collection, and on the north side rooms connected with the geological collection. The second floor will contain a central hall, 110 feet by 55 feet, and on the south side rooms connected with the invertebrate collection, and on the north a lecture room and rooms connected with the mineralogical collection. On the third floor there will be rooms for macerating and the carrying on of work likely to produce unpleasant odours, while a lift will place all the floors in easy communication with one another. It will be seen that, so far as the rooms are concerned, the plan is to have on the basement and top floor the workshops, in the centre of the building the main exhibition halls, and on either side the rooms for the staff and for the housing of the reserve collections. The entrance hall will at present be devoted to the exhibition of the invertebrate objects, and to that of certain special cases illustrating mimicry, &c.; the floor of the main hall, into which the former leads, will contain the general vertebrate collection, which is now in course of arrangement, while the large gallery running all round this will be utilised for the display of the geological and mineralogical exhibits. In the old museum the arrangement adopted was a geographical one. In the new museum the animals are being arranged, in the main, zoologically—that is, for example, fishes will be classified and arranged together, all the reptiles, birds, and mammals will be similarly arranged, irrespective of where they come from, and so on through the whole series.

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Amongst the mammals the system of grouping is being adopted to a considerable extent. The distribution of the animals will be indicated by coloured maps, and by means of descriptive labels attention will be drawn to the important points connected both with special animals and groups. While typical samples of our Australian fauna will find their places in the zoological series, the large hall on the second floor of the new block will be devoted exclusively to an Australasian collection, and it is to the extension and completion of this that special attention will be paid." The teaching collection in connection with the biological laboratories at the university will be maintained, while a similar collection for the teaching of geology is being formed by Professor Gregory.

CHRISTCHURCH MUSEUM, NEW ZEALAND.—This museum has acquired the collection of antiquities made by the late Mr. Robert Damon, of Weymouth, between the years 1873 and 1881. It consists of about one hundred and thirty-five pieces of Phœnician glass from ancient tombs at Tyre and Sidon, and sixty-seven pieces of terra-cotta, chiefly from Cyprus. Another late acquisition is the crown of the Bishop of Abyssinia, which was taken to England by the Rev. E. Goodhart, chaplain to the Forces in the Abyssinian War. It is a very old specimen made of brass, ornamented with coloured glass and hung round with small brass bells.

On account of the valuable services rendered by Dr. Emilio Augusto Goeldi to the museum at Pará, Brazil, of which establishment he has long been the director, it has been decreed by the State that the name of the museum shall be changed from Museu Paraense to Museu Goeldi.

Mr. A. Gibb Maitland, in the report of the Geological survey of Western Australia for 1899, draws attention to the dilapidated state of the only building in which all the specimens and records of the survey are housed. He urges the erection of a water-tight and properly lit building, to accommodate the whole of the national, geological and mineralogical collections, as well as the offices of the survey. We wish the government geologist all success in his endeavours.

We have received from Mr. J. E. Duerden, lately curator of the museum of the Institute of Jamaica, the second part of his account of Jamaican Actiniaria (*Sci. Trans. Roy. Dublin Soc.*, Ser. 2, Vol. 7, No. 6, 1900). Zoologists must regret that so competent a worker should have had to retire from the scene of these and other valuable labours; but a Museum Journal cannot express any opinion on this memoir, except that the author of new species should inform his readers where the type-specimens are to be found, and this Mr. Duerden has failed to do.

From the Journal of the Institute of Jamaica (Vol. 2, No. 6) we learn that the Jamaica portrait gallery has recently acquired copies

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(mostly photographic) of the portraits of Sir Anthony Shirley, Sir George Nugent, Maria, Lady Nugent, Sir Edward Newton, Sir H. T. de la Beche, Lord Collingwood, Olof Swartz, Admiral Sir Hyde Parker, and Con. Phillips, all of whom were connected with the island.

Mr. Henry Vendryes has contributed to the *Journal of the Institute of Jamaica* (Vol. 2, pp. 590-607) a "Systematic Catalogue of the Land and Freshwater Shells of Jamaica." This is prefaced by interesting historical notes on Jamaican conchologists and their collections. The types of C. B. Adams are in the museum of Amherst College, and in 1863 still retained the original labels. A collection of the land shells of Jamaica was presented to the British museum by the Hon. Edward Chitty, who also gave an exact counterpart of it to the late Royal Society of Arts of Jamaica. "After the foundering of the Society the collection was accorded a temporary place of refuge . . . in a storeroom at the wharf of the Royal Mail Company. . . . The removal was made by the quieter patients of the Lunatic Asylum. . . . After remaining in the storeroom for several years, amidst piles of coal dust and other rubbish, and exposed to all manner of dangers, depredations, and disturbances, what remained of the collection drifted into the possession of the Institute of Jamaica. Chitty's original tablets have disappeared, except two. . . . Some officious, though perhaps well-meaning, person appears to have at some time or other removed the remaining specimens from the original tablets of Chitty, which had perhaps become damaged, and to have stuck them on to slips of glass labelled, mostly with wrong labels. . . . Nearly all the smaller and the more minute species have been lost."

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Vol. I.] [No. 3.

15,284.

THE

MUSEUMS JOURNAL

THE ORGAN OF THE MUSEUMS ASSOCIATION.

EDITED BY

E. HOWARTH, F.R.A.S., F.Z.S.,

Museum & Art Gallery, Sheffield.

*

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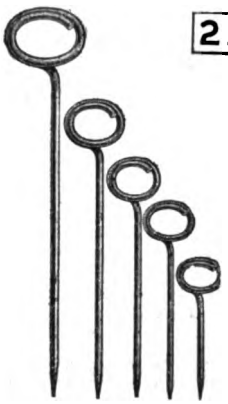

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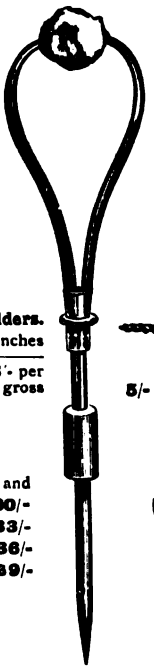

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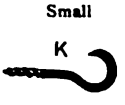

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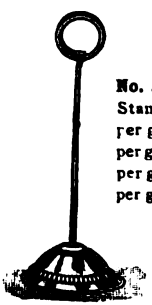

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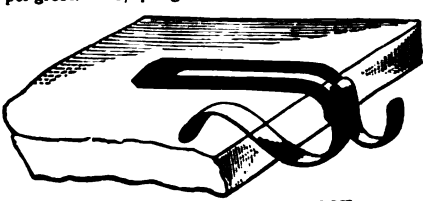

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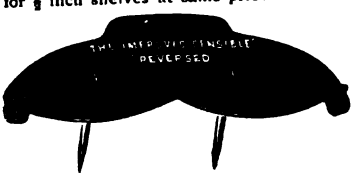

L 1008. Price. **8/-** per gross.
For holding descriptive labels. Having two spikes it is absolutely rigid when once pressed into position.
☞ A Sample will be sent Free on application.

No. M 5. SHELF HOOK.
For holding label or any carded article from edge of ¼ or ⅜ inch shelf. **9/-** per gross.
Also for ½ inch shelves same price.

No. 5.—Descriptive Label Holder.
Specially adapted for holding descriptive label on card or metal tray. The top clip, holding ticket, can easily be bent to any required angle, whilst the other clips the side of the tray. Invaluable for Geological Section. Supplied in the following sizes:—¾ in., **4/-** per gross; 1¼ in., **6/-** per gross; 2 in., **6/6** per gross.

The Aldersgate Stand (Patented)
For supporting descriptive cards at any angle.
Small size, 2 in. by 1⅜ in. .. **10/-** per gross.
Large size, 3½ in. by 2½ in. .. **24/-** "

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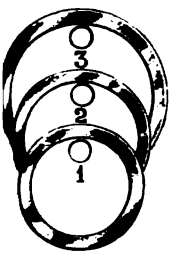
WM. POTTER & SONS, Ltd.,

ESTAB. 1846.

160 & 161, ALDERSGATE ST., LONDON, E.C.

Makers of Clips, Hooks, Specimen Holders, Fasteners, Boxes, and Sundries to the British Museum, South Kensington Museum, Science and Art Dept., Dublin, Derby Museum, Horniman Museum, and numerous Home and Colonial Institutions.

Estimates furnished for Requirements in either of above Departments. Quotations, Illustrations, and Samples, on application.



Metal Rim Tabs.

With white card centres, in six sizes.

No.	Size.	Price.
0.	⅝ Diam.	3/6 per 1000
1	11/16 „	4/3 „
2	13/16 „	5/- „
3	1 1/16 „	7/9 „
4	1⅛ „	9/- „
5	1⅜ „	12/- „

No. 18.—Metal Box for Specimens.

Round, Silver colour, shouldered, and dust tight.

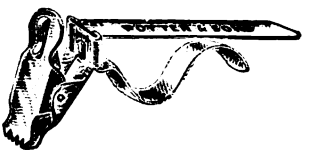
WITH GLASS LIDS.

No. 1 size—1½ in. by 9/16 in., 10/6 per gross
No. 2 size—2 in. by 11/16 in., 13/6 „
No. 3 size—2½ in. by ¾ in., 16/- „
No. 4 size—2½ in. by ⅞ in., 21/- „
No. 5 size—2½ in. by 1 in., 24/6 „
No. 6 size—3¼ in. by 1 5/16 in., 29/6 „

ALL METAL.

No. 7 size—1½ in. by 9/16 in., 7/6 per gross
No. 8 size—2 in. by 11/16 in., 9/6 „
No. 9 size—2½ in. by ¾ in., 10/6 „
No. 10 size—2½ in. by ⅞ in., 13/- „
No. 11 size—2½ in. by 1 in., 15/- „
No. 12 size—3¼ in. by 1 5/16 in., 17/6 „

N.B.—Not less than One Gross of any size or kind supplied.

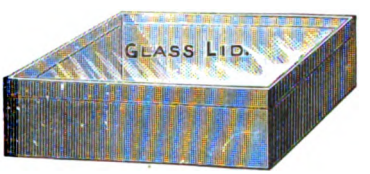


No. BT 3.

The "Simplex" Shelf Clip.

For holding specimens from ¼ or ⅜ in. shelf. Specially useful for long narrow labels.

1/6 per doz.; 15/- per Gross.



No. 14.—Glass-Topped Specimen Boxes.

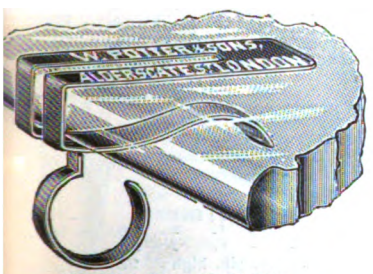
Lined white paper inside and black outside. As used at the Geological Museum, London.

No.	Length.	Width	Depth.		
1 size—	2 in. by	1½ in. by	⅜ in.	.. 18/-	per gross.
2 size—	2½ in. by	1½ in. by	1 in.	.. 21/-	„
3 size—	3 in. by	2¼ in. by	1¼ in.	.. 24/-	„
4 size—	3⅜ in. by	2½ in. by	1⅜ in.	.. 27/-	„
5 size—	4 in. by	3 in. by	1⅝ in.	.. 31/-	„
6 size—	4½ in. by	3¾ in. by	1¾ in.	.. 36/-	„
The above 6 sizes, assorted equally ..				27/-	„

Ontside measurements are quoted. Any other size, shape, or quality made to order.

Also extra stout make in the following sizes covered green Cloth.

8 in. by 6 in. by	1⅜ in. ..	..	..	24/- per doz.
10 in. by 8 in. by	2 in. ..	..	..	30/- „
12 in. by 9 in. by	2½ in. ..	..	..	36/- „
14 in. by 10 in. by	3 in. .	..	..	42/- „
16 in. by 12 in. by	3½ in. ..	..	..	48/- „
18 in. by 14 in. by	4 in. ..	..	..	60/- „
20 in. by 16 in. by	4 in...	..	..	72/- „



No. 446.—Glass Shelf Clip.

This Clip is constructed specially to hold rods articles of heavier weight than the smaller clip ld. The hook portion being arranged *under* the elf instead of at the *front edge* as usual; great ditional strength and safety is thereby secured. 24/- gross.

No. 15.—Neat Cardboard Tray for Specimens.

Same length, width, and finish as boxes No. 14, but are ½ in. high.

Size	1	2	3	4	5	6	
	4/-	5/-	6/-	7/6	9/-	10/6	per gross

Larger sizes to order.

No. BT 57 M.—Oblong Tablets, Superior Finish.

Covered velvet and mounted on morticed boards with ebonized and polished bevel edges.

For use with W. P. & Sons' various Screws, Clips, and Supports.

8 in. by 8 in., 36/- doz.; 15 in. by 9 in., 54/- doz.

Will stand at an angle or lie flat, as desired.

Plain Cardboard for Mounting or Writing.

No.		Per doz.
266	size—24 by 19, 6-sheet cardboard,	2/3
267	size—24 by 19, 8-sheet cardboard.	2/6
268	size—24 by 19, 12-sheet cardboard,	3/-
270	size—24 by 19, stout tinted board,	3/6
270A	size—Ivory card, 24 by 19, thick,	4/6
270A	size—Ivory card, 24 by 19, medium,	4/-
270A	size—Ivory card, 24 by 19, thin,	3/6

Half the above sizes at half the prices.

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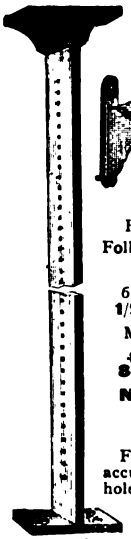
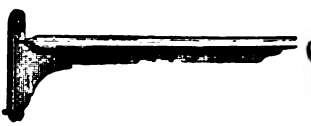
1st Quality STANDARDS & BRACKETS, For SHOW CASES.



No. K.



Bracket B.

For Fixing to **L** Tapped Bar.
Following sizes and prices:

BRONZED BRASS.

6	8	10	12	15 inch.
1/2	**1/6**	**2/3**	**2/9**	**3/6 each.**

MALLEABLE IRON (Warranted).

4	5	6	8	10 inch.
8d.	**9d.**	**10d.**	**1/3**	**1/6 each.**

No K STANDARD BAR.

Size 1¼in. by ⅜ in.
1/2 per foot

First quality, high finish, tapped accurately every inch with screw holes.

Each standard is supplied with our Special Top Fitting.

Bracket J.

For fixing to Standard Bars
First Quality and Finish.

Following sizes are stocked :—

BRASS, BRONZED.

6	8	10	12 inch.
1/2	**1/6**	**2/3**	**2/9 each.**

15	18	21	24 inch.
3/6	**4/6**	**6/6**	**8/6 each.**

MALLEABLE IRON (Warranted).

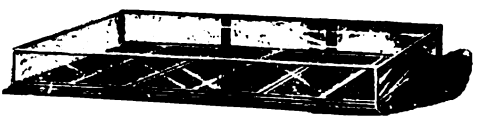
6	8	10	12 inch.
10d.	**1/3**	**1/6**	**1/9 each.**

15	18	21	24 inch.
2/6	**3/6**	**4/6**	**5/6 each.**

L TAPPED BAR; Brass, Bronzed, 1/- per foot.

PLATE GLASS SHOW CASES.

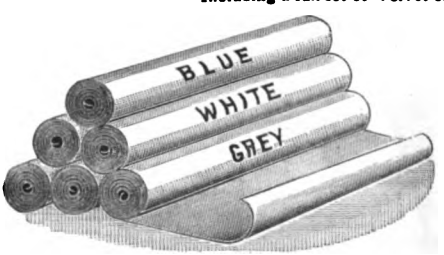
Can be obtained at all prices. In comparing lists, purchasers are earnestly solicited to CONSIDER QUALITY as well as RATE. Common cases answer very well for many purposes, but for first-class air-tight work of highest quality a high rate is compulsory. We quote for various qualities, and in each instance we GUARANTEE to give FULL VALUE. Packing cases are charged, but allowed IN FULL if returned in good condition, carriage paid, within seven days.



No. 47.—24in. wide, 8in. or 9in. deep, any length not less than 4 feet.

First quality—Plate Glass, Ebony Rails, Ait-tight, Mirror-lined Drop Doors - -	**35/-**	per foot.
" " Ebonised Mahogany, Air-tight, - - - - - -	**30/-**	"
" " " " " SPLENDID VALUE, 9in. high	**25/-**	"
Special Quality " " " " " Dust Tight - - - - - -	**22/6**	"

Including a full set of Velvet-covered Moveable Trays.

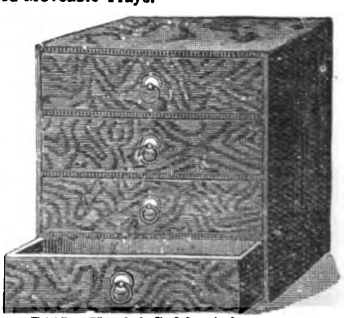


No. A536.

Extra Thick Enamelled and Glazed Specially Prepared Papers.

For lining Show Cases, &c.
Price **2 3** per piece, 6 pieces for **12 6**

Size—22 inches wide,
12 yards long.



B814.—Useful Cabinet for private Collectors or Duplicate Specimens.

Light wood covered cloth, brass handles.
15 by 12 by 8 (4 drawers) **16 6**
18 by 15 by 20 (5 drawers), **21/-**
20 by 18 by 12 (6 drawers) **25/-**
34 by 20 by 16 (8 drawers), **30/-**

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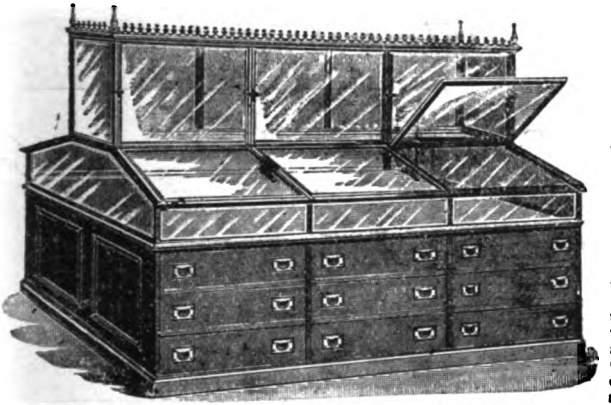
ESTD. 1846. **WM. POTTER & SONS, Ltd.,** ESTD. 1846.

160 & 161, ALDERSGATE ST., LONDON, E.C.

PLATE GLASS CASES, SHOW STANDS, &c., for Exhibition or Private Collections.



No. F 103.—Handsome Mahogany Polished or Mahogany Ebonised Plate-Glass Case.

Admirably adapted for showing museum specimens. The upper portion of Show Case opens on both sides with swinging sashes, the lower is arranged on both sides with lift-up sloping desk sashes furnished with brass quadrants for keeping open, when required. The case is supported on a mahogany table with double panelled and moulded ends, fitted with a full set of mahogany fronted dovetailed drawers, forming altogether a most excellent method of protecting specimens from damage. Instead of drawers, the table portion could be made an additional Show Case, if desired, or to stand on legs.

DIMENSIONS.

Total height, 6ft. 3in. (excluding ornamental iron cresting and finials).

Table Height, 2ft. 9in.; depth, 4ft. 6ins.

Total height of Show Case (excluding cresting), 3ft. 6in.

Height of upper part of Show Case, 2ft. 1¾in.

Depth of upper part of Show Cases, 14 in.

The lower portion of Show Case measures at its highest 15in., and at its lowest 9in.

Bottom of Case is covered with Claret or Blue coloured Cloth. The under part of table is fitted with Drawers, three in height and length, according to dimensions of Case. All Sashes are made on the "air-tight" principle and Glazed Plate Glass.

7ft. by 4ft. 6in by 6ft. 3in., 18 Drawers, **£66 10/-**

9ft. by 4ft. 6in. by 6ft., 24 Drawers, **£78 10/-**

12ft. by 4ft. 6in. by 6ft., 30 Drawers, **£95**

If delivered outside London, an extra charge is made for packing, according to size, varying from £3 upwards.

BT 33.
30/- per gross.
SPRING CLIP HOLDER.
(PATENTED)
For displaying specimens on Trays, Tablets, Show Cases, &c.
Sample **Free.**

STEEL R HOOK.
Price **2/6** per gross.
For suspending labels, &c. from rods wires or specimens.

GUMMED LABELS, Extra Quality. Treble Gummed.

No. 27. 1/- per 1000.

No. 29. 8d. per 1000.

BLUE BORDERS. No. 30. 6d.

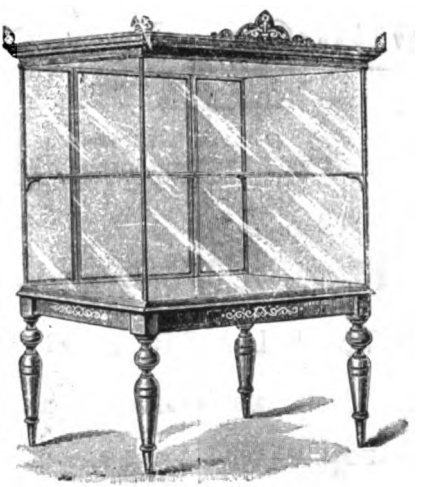
50 other Sizes in Stock.

No. 11 1/- per 1000

No. 12 10d.

No. 13 8d.

No. 14 6d.



No. 518. Mahogany Plate-Glass Case.

Clear plate glass all round and top, carved pediment. Inside fitted with one full-sized plate-glass shelf, 4 tapped bars and brackets. Splendid case for centre of room.

Height, ins.	Width, ins.	Depth, ins.	A Quality, air-tight.	B Quality, without pediment or inside fittings.
36	36	24	£15 5 0	£9 17 6
36	48	24	18 10 0	12 15 0
36	54	30	21 15 0	15 10 0
48	60	30	25 0 0	18 10 0

Table or Stand for above, 37/6, 57/6 & 72/6 extra.

Glass Show Cases made for all purposes—any size or shape. Estimates and drawings supplied on application.

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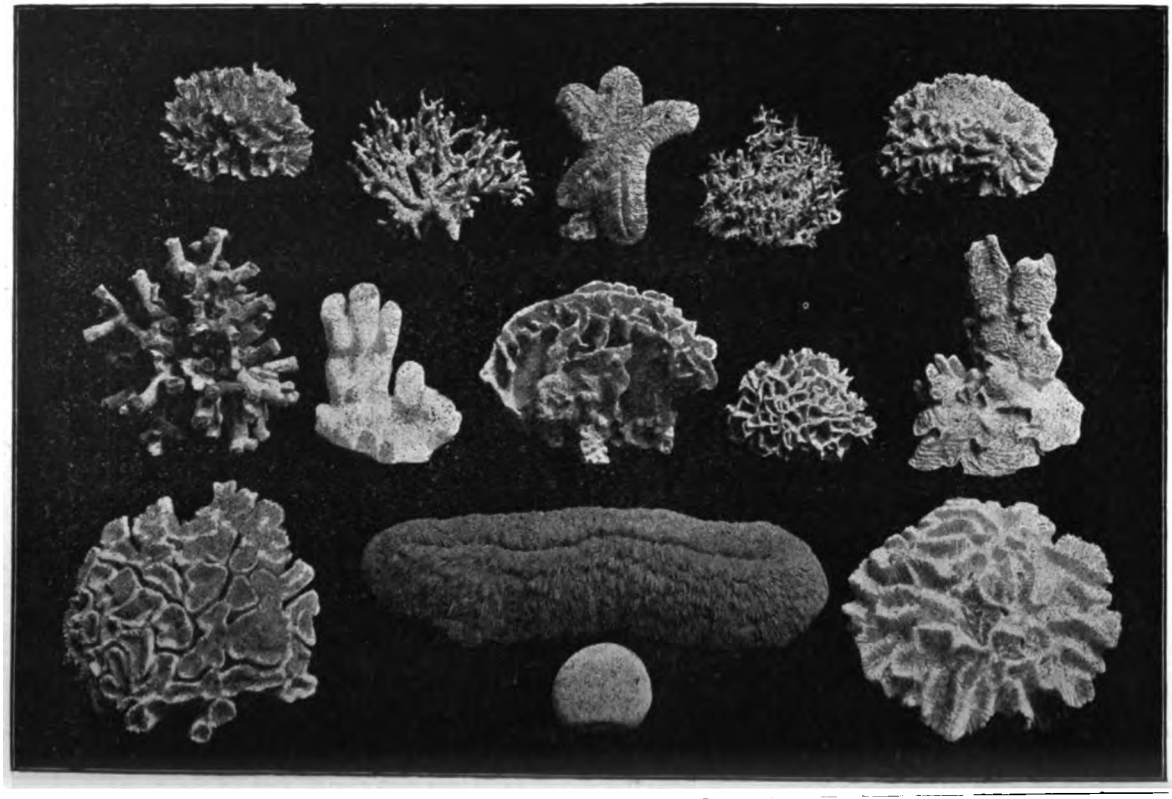

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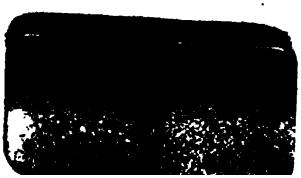

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